REMARKS

Claims 1-20 are pending in the present application.

Claim 1 is objected to because of the informality that the subject matter "at a first switching node of said working path" in step a. was omitted.

Claim 14 is objected to because of the informality that the first "working path" should be the "protection path.".

Claims 1,3-5,7-20 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,721,269 of Cao et al. ("Cao").

Claim 6 is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,532,088, of Dantu et al. ("Dantu").

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cao in view of U.S. Patent No. 5,241,534 of Omuro et al. ("Omuro").

Claim 1 is objected to because of the informality that the subject matter "at a first switching node of said working path" in step a. was omitted. (2-4-05 Final Office Action, p. 2) This was corrected.

Claim 14 is objected to because of the informality that the first "working path" should be the "protection path.". (2-4-05 Final Office Action, p. 2) The Applicants respectfully submit that the first instance of "working path" should be called "working path" because the first instance of "working path" defines "the path". In other words, "the path" is actually "the path the follows the working path".

The Applicants respectfully submit that Cao does not render Claims 1, 3-5, 7-20 unpatentable under 35 U.S.C. 102(e) or that Cao in view of Omuro does not render Claim 2 unpatentable under 35 U.S.C. 103(a).

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Cao. Specifically, the Examiner states that:

> Regarding claim 1, Cao discloses an multi-protocol label switching system (MPLS) having a working path over which data is carried from a source to a destination and further having a protection path over which data from the source to the destination can be carried, a method of initiating an MPLS protection path switch over from the working path to the protection path comprising the steps of:
> -detecting a failure on the working path at a first switching node of the working path (col. 3 lines 48-51);
> -transmitting a failure notification message from only a first switching node to at least a second, switching node of the working path (if a failure is detected, a router that first detects the failure propagates the physical level maintenance to the source and sink routers, col. 3 lines 48-51);
> -routing data from the working path to the protection path upon the receipt of the failure notification message at least one of: the second switching node an a third switching node of the working path(col. 3 lines 53-56). (2-4-05 Final Office Action, p. 3)

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cao in view of Omuro. Specifically, the Examiner states that:

> Regarding claim 2, Cao fails to explicitly disclose that re-routing data from the protection path to the working path upon the determination that the failure on the working path has been corrected.
> Omuro, on the other hand, teaches re-routing (change back) data from the protection path to the working path upon the determination that the failure on the working path has been corrected (see abstract).
> Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to implement the teaching of Omuro in the system taught by Cao in order to restore the original path upon the restoration the path -where the original path usually is cost efficient and shortest path. (2-4-05 Final Office Action, p. 8)

Cao discloses a router that "operates as an explicitly routed line switched router (ERLSP) to establish a plurality of paths from a source (entry) router to a sink (destination) router." (Cao, col. 2, lines 30-33) The paths are provisioned at the source router, through a network management system. All of the new routers between the source and sink routers operate to establish the plurality of paths. In the event of a path failure, the sink router selects an operational one of the pre-established paths. (Cao, col. 2, lines 40-41)

Cao does not teach or suggest routing data form the working path to the protection path upon receipt of a failure notification message at at least one of the second switching node and a third switching node, wherein the particular switching node is at the origin of both the working path and the protection path. In fact, Cao teaches against switching upon receipt of a failure notification message at a switching node at the origin or both the working and the protection path. Cau discloses that "[i]f the primary path fails, the sink router switches to communications over the secondary path". (Cao, col. 3, lines 41-43). The sink router is the destination router. (Cao, col. 2, line 33)

In contrast, Currently Amended Claim 1 is limited to:

> Claim 1. In a multi-protocol label switching system (MPLS) having a working path over which data is carried from a source to a destination and further having a protection path over which data from the source to the destination can be carried, a method of initiating an MPLS protection path switch over from the working path to the protection path comprising:
>
> a. detecting a failure on the working path at a first switching node of said working path;
>
> b. transmitting a failure notification message from only a first switching node to at least a second, switching node of the working path; and
>
> c. routing data from the working path to the protection path upon the receipt of the failure notification message at at least one of the second switching node and a third switching node of the working path, wherein the at least one of the second switching node and the third switching node is at an origin of both the working path and the protection path.

Currently Amended independent Claims 4, 6 and 12 include similar limitations. Claims 2, 3, 5, 7-20 directly or indirectly depend on independent Claims 1, 4, 6, and 12.

The Applicants respectfully submit that Dantu does not render Currently Amended Claim 6 unpatentable under 35 U.S.C. 102(e).

Claim 6 is rejected under 35 U.S.C. 102(e) as being anticipated by Dantu. Specifically, the Examiner states that:

> Regarding claim 6, Dantu discloses a multi-protocol label switching (MPLS) system comprised of a first MPLS

> protection switch having a data input port into which MPLS data is received from a data source (the central network node, see figure 3);
>
> a second MPLS switching system coupled to said first MPLS protection switch via a first data path carrying MPLS data, said first data path comprising an MPLS working path (either network node 312 or 320, see figure 3);
>
> a third MPLS switching system coupled to said first MPLS protection switch via a second data path capable of carrying MPLS data, said second data path comprising an MPLS protection path (either network node 312 or 320, see figure 3);
>
> an upstream reverse notification tree (RNT) data path extending at least between said second MPLS switching system to said MPLS protection switch carrying data by which a switch over from a working path to a protection path can be initiated (see col. 9 lines 8-33 and figure 3). (2-4-05 Final Office Action, p. 7)

Dantu discloses a system for transporting IP user traffic over a fiber optic ring network that includes a plurality of network nodes. (Dantu, Abstract) In the system, an ingress node is connected to the internet to receive path information (e.g. communication link failures) to determine IP packet routing whenever it receives a packet of data that is to be transmitted to a specified location. (Dantu, Col. 6, lines 55-64; FIG. 1; Col. 13, lines 42-49; FIG. 3)

Dantu does not teach or suggest an upstream reverse notification tree data path, that follows the MPLS working path, carrying a failure notification, by which a switchover from an MPLS working path to an MPLS protection path, by a node at an origin of the MPLS working path and the MPLS protection path, can be initiated. On the contrary, Dantu discloses a central node with an internet connection to receive internet parameter information, including path information (e.g. communication link failures), to determine IP packet routing. (Dantu, Col. 6, lines 55-64; FIG. 1; Col. 13, lines 42-49; FIG. 3) To receive path information such as communication link failures, the central node disclosed by Dantu does not require an upstream reverse notification tree data path, that follows an MPLS working path, carrying a failure notification.

In contrast, Currently Amended Claim 6 is limited to:

> Claim 6. A multi-protocol label switching (MPLS) system comprised of:

a first MPLS protection switch having a data input port into which MPLS data is received from a data source;

a second MPLS switching system coupled to the first MPLS protection switch via a first data path carrying MPLS data, the first data path comprising an MPLS working path;

a third MPLS switching system coupled to the first MPLS protection switch via a second data path capable of carrying MPLS data, the second data path comprising an MPLS protection path;

an upstream reverse notification tree (RNT) data path that follows the MPLS working path and extends at least between the second MPLS switching system to the first MPLS protection switch carrying a failure notification by which a switchover from the MPLS working path to the MPLS protection path, by a node at an origin of the MPLS working path and the MPLS protection path, can be initiated.

In view of the arguments set forth herein, it is respectfully submitted that the applicable rejections have been overcome. Accordingly, it is respectfully submitted that Claims 1-20 should be found in condition for allowance.

If there are any additional charges, please charge them to our Deposit Account Number 500-654.

Respectfully submitted,

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By: Cheryl M. Fernandez

Cheryl M. Fernandez
Reg. No. 52,611

Tellabs Operations, Inc.
One Tellabs Center
1415 W. Diehl Rd. MS 16
Naperville, IL 60563
(630) 798-3019 (phone)
(630) 798-3231 (fax)